



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,075	08/26/2003	Daniel Yap	B-3858DIV 620913-1	4663
36716	7590	06/16/2006		
LADAS & PARRY 5670 WILSHIRE BOULEVARD, SUITE 2100 LOS ANGELES, CA 90036-5679			EXAMINER CHERRY, EUNCHA P	
			ART UNIT 2872	PAPER NUMBER
DATE MAILED: 06/16/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/649,075

Applicant(s)

YAP ET AL.

Examiner

EUNCHA P. CHERRY

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28, 42 and 43 is/are pending in the application.
- 4a) Of the above claim(s) 42 and 43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2872

### DETAILED ACTION

After careful review of argument presented in the Appeal Brief filed on 3/13/06, it is found that a new rejection is needed. Any inconvenience caused by this action is regretted.

### *Claim Objections*

1. Claims 1-28 are objected to because of the following informalities: claim 1 only contains the preamble, there is no body of the claim. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 7, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuribayashi et al (US 5,802,230).

Kuribayashi et al discloses an interconnection (Figs . 6 and 7) for interconnecting microelectronic chips (18) with optical wires (82) , wherein the optical wires are bonded onto the microelectronic chips and optically connected therewith (see Fig. 6), wherein at least one optical wire of the optical wires

Art Unit: 2872

comprises a segment of an optical fiber (82), the segment having two opposite ends (82A, 82B), the ends being a first end and a second end (see Fig. 7), the ends being attached to the microelectronic chips by means of terminations (56, 36, 16), the terminations being disposed on a substrate material having a first side and a second side (see Fig. 7), the termination being optically coupled to the optical fiber (82A) and the terminations being further electrically coupled to the microelectronic chips (column 5, lines 19-23), wherein the terminations comprise a laser chiplet and a photodetector chiplet, the first end being connected to the laser chiplet and the second end being connected to the photodetector chiplet (column 5, lines 26-33), wherein the optical fiber is disposed within a groove (see Fig. 7), wherein the terminations are vertically coupled devices (see Fig. 7), an optical path is established so that light travels from the laser chiplet through the substrate material to the photodetector chiplet (see Fig. 7).

4. Claims 1, 2, 6, 14-16 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Tabuchi (US 5,764,832).

Tabuchi discloses an interconnection (Figs. 20 and 21) for interconnecting microelectronic chips (6a) with optical wires (7), wherein the optical wires are bonded onto the

Art Unit: 2872

microelectronic chips and optically connected therewith (see Fig. 20, by bonding pad 5), wherein at least one optical wire of the optical wires comprises a segment of an optical fiber (7), the segment having two opposite ends (see two ends), the ends being a first end and a second end (see Fig. 20), the ends being attached to the microelectronic chips by means of terminations (see the end of fiber being terminated in Fig. 20), the terminations being disposed on a substrate material having a first side and a second side (1a), further comprising a groove (2a) and a mirror (see the angle surface on 1a), wherein the fiber is disposed within the groove (see Fig. 20), wherein the mirror is disposed on the second side of the terminations (opposite side from 62a), the second side of the substrate is a crystallographic surface (1a), and the groove is aligned along a direction and mirror is aligned along the direction (see Fig. 20).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

Art Unit: 2872

the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5, 9, 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuribayashi et al.

Regarding claims 5 and 11, Kuribayashi et al discloses the claimed invention as set forth above except the optical fiber having a numerical aperture of at least about 0.35 or the termination having the size as recited. It would have been obvious to one of ordinary skill in the art to choose these values , since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 9 and 17, Kuribayashi et al discloses the claimed invention as set forth above except for the solder (column 5, lines 23-25) comprises gold. It would have been obvious to one of ordinary skill in the art to use gold as a soldering material since gold is easy to melt which does not require a complicated melting device.

Regarding claims 12, 13, 18-24 and 26-28, Kuribayashi et al discloses the claimed invention as set forth above except for the materials for substrate, vertical-cavity surface emitting laser or photodetector. It would have been obvious to one of

Art Unit: 2872

ordinary skill in the art to choose recited materials, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use for the purpose of obtaining a semiconductor that has a good durability.

#### ***Response to Arguments***

7. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.


#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUNCHA P. CHERRY whose telephone number is 571-272-2310. The examiner can normally be reached on M-F 6:30-4:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DREW DUNN can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



EUNCHA P. CHERRY  
Primary Examiner  
Art Unit 2872

6/2/06



DREW A. DUNN  
SUPERVISORY PATENT EXAMINER